

Amendment to the Specification:

Please replace the paragraph on Page 7, Lines 18-27, with the following paragraph:

FIGURE 4 is a data structure diagram generally illustrating a heap tag function identifier in a heap entry structure that is used in accordance with aspects of the invention. Heap entry structure 410 typically comprises header 420, data field 430, diagnostic header 440, and optionally overwrite detection pattern 450. Diagnostic header 440 comprises heap tag 460 and optionally comprises other information such as miscellaneous header information, heap entry index, overwrite detect flag, timestamp, and size. The timestamp indicates the time when one of requesting and freeing the allocable memory block is performed. Heap tag 460 typically comprises the return address of the function that allocated the memory. In other embodiments, an identifier of the function that allocated the memory can be used such that the return function that allocated the memory can be later identified.